

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for September, 1898, is based on about 2,940 reports from stations occupied by regular and voluntary observers, classified as follows: 147 from Weather Bureau stations; numerous special river stations; 32 from post surgeons, received through the Surgeon General, United States Army; 2,583 from voluntary observers; 96 received through the Southern Pacific Railway Company; 29 from Life-Saving stations, received through the Superintendent United States Life-Saving Service; 31 from Canadian stations; 20 from Mexican stations; 7 from Jamaica, W. I. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; Dr. Mariano Bárcena, Director of the Central Meteorological and Magnetic Observatory of Mexico; Mr. Maxwell Hall, Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kim-

ball, Superintendent of the United States Life-Saving Service; and Commander J. E. Craig, Hydrographer, United States Navy.

The REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to generally conform to the modern international system of standard meridians, one hour apart, beginning with Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local meridian is mentioned.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

The most important meteorological event of September, 1898, was the hurricane which visited the Windward Islands of the West Indies on the 10th and 11th.

As shown by the report, published herewith, of the United States Weather Bureau observer at Bridgetown, the storm was particularly destructive throughout the Island of Barbados, where 83 persons were killed, 150 injured, and property to the estimated value of \$2,500,000 was destroyed. At St. Vincent and St. Lucia the violence of the hurricane during the 11th appears, from a report rendered by Mr. H. Powell, Curator of the Botanic Garden at Kingston, St. Vincent, to have equaled or exceeded that manifested at Barbados the night of September 10. Accurate information regarding losses on these islands is not, however, at hand. After the 11th the hurricane center moved northwestward with a very marked loss of strength, and finally disappeared east of the Bahamas during September 14.

The action of the Weather Bureau in issuing warnings and advisory reports in connection with this hurricane is detailed in the description of the storm which follows, and the hurricane track, together with the general distribution of atmospheric pressure which attended the progress of the storm is plotted on special charts which appear in this issue of the REVIEW.

On September 25 a second storm of tropical origin appeared as a feeble disturbance over the eastern part of the Gulf of Mexico. During the 26th this storm moved northeastward

over the Bahamas, where it developed almost hurricane violence and caused considerable damage on some of the more northern islands of that group. Atlantic coast ports and interests were advised of the progress and character of this storm, which was not, however, severely felt on the United States coasts. Unfortunately the Nassau, Bahamas, morning report of the 26th was not received, and warning of the storm's increasing intensity could not, therefore, be given until the receipt of a special noon report from Nassau. The path of this storm is plotted as low area X.

During the last two days of September a storm developed in the vicinity of the island of Santo Domingo, and moved thence northwestward to the south Atlantic coast of the United States, where it raged with hurricane violence during October 2. This storm will be made the subject of a descriptive article in the MONTHLY WEATHER REVIEW for October, 1898.

No reports showing severe storms have been received from the Pacific coast districts, and no serious disturbance occurred in the Chicago forecasting district.

THE WINDWARD ISLANDS HURRICANE OF SEPTEMBER 10-11, 1898.

Although the weather over the Lesser Antilles had been unsettled for several days there was no certain evidence of an approaching hurricane until September 10, when the